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ABSTRACT

A study compared student participation and program features in two-year college vocational education programs in school year 1993-94 (after enactment of Perkins amendments) with 1990-91 (before enactment). Questionnaires were mailed to a sample of two-year public and private nonprofit colleges in two surveys, one for 1990-91 and another for 1993-94. Changes that had taken place in vocational-technical programs (such as, use of quality indicators for program assessment, school-to-work transition activities, and integration of academic and vocational learning) and among students from special populations (participation in vocational-technical programs and availability of support services) were identified. Four two-year colleges were visited. Findings indicated efforts to improve program quality showed progress, but use of some recommended approaches was lagging. Two-year colleges increased the use of quality measures to assess vocational education programs. Tech prep programs had been almost universally adopted since the Perkins amendments. Two-year colleges were slow to strengthen integration of academic and vocational instruction. Removal of set-aside requirements did not appear to have hurt special population students. Participation in postsecondary vocational education by special population students was maintained. Availability of support services for special population students was either increased or maintained by the Perkins amendments. (Appendixes include scope and methodology, supplementary analysis, aggregated responses to the survey, and Department of Education comments.) (YLB)

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United States General Accounting Office

GAO

Report to Congressional Committees

July 1995

VOCATIONAL EDUCATION

2-Year Colleges Improve Programs, Maintain Access for Special Populations

ED 384 791

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United States
General Accounting Office
Washington, D.C. 20548

Health, Education, and
Human Services Division

B-255079

July 26, 1995

The Honorable Nancy Landon Kassebaum
Chairman
The Honorable Edward M. Kennedy
Ranking Minority Member
Committee on Labor and Human Resources
United States Senate

The Honorable William F. Goodling
Chairman
The Honorable William L. Clay
Ranking Minority Member
Committee on Economic and
Educational Opportunities
House of Representatives

Over the past two decades, economic changes, especially improvements in technology, have created new opportunities for skilled workers. Many of these emerging occupations do not require a 4-year college degree, but do call for specialized high-tech skills. In this context, vocational education becomes an especially important tool for ensuring that entry-level workers are prepared for the labor market.

The Carl D. Perkins Vocational Education Act (P.L. 98-524) provides federal support for vocational education at both the secondary (high school) and postsecondary levels. Two-year colleges offer several vocational education programs in fields as diverse as automotive technology, nursing, culinary arts, computer-assisted drafting, and electronics technology. Although Perkins funds (about $1.3 billion) account for a relatively small proportion of total vocational education spending, some experts in vocational education view the provisions of the Perkins Act Amendments of 1990 (P.L. 101-392) as a driving force in setting vocational education priorities for the nation. These amendments encouraged several types of vocational education approaches that are designed to provide students with a better understanding of how schoolwork relates to the work place. The amendments also removed a requirement that 57 percent of Perkins funds be set aside for students from special populations, including economically disadvantaged students, students with disabilities, and students with limited English proficiency.[1]

[1]In place of the set-aside requirement, the amendments directed states to distribute Perkins funds so as to give priority to schools or programs that serve higher concentrations of special population students.

At the time of the amendments, some policymakers expressed concern that removal of the set-aside requirement would reduce access to vocational education for special population students.

In response to a mandate in the amendments to examine the changes in vocational educational programs and the participation of special population students, we carried out two studies—one of secondary schools and one of 2-year colleges. An earlier report discussed changes in vocational education at the high school level;[2] this report completes the study of 2-year colleges.[3] We compared academic year 1990-91,[4] before the amendments were in effect, with 1993-94, after the amendments were in effect. Specifically, we address the following questions:

- For vocational education programs, to what extent have colleges adopted approaches to enhance quality—such as (1) use of quality indicators for program assessment, (2) school-to-work transition activities, and (3) integration of academic and vocational learning?
- For students in special population groups, what changes have taken place in (1) their participation in vocational-technical education programs and (2) the availability of support services?

We collected information for this study through two surveys. To obtain information for 1990-91, and again for 1993-94, we mailed questionnaires to a sample of 2-year public and private nonprofit colleges. For the colleges that responded to both surveys,[5] we determined what changes had taken place (1) in vocational-technical programs and (2) among students from special populations. Although we did not verify the self-reported data, to supplement our survey we visited four 2-year colleges. We did our work between November 1993 and April 1995 in accordance with generally accepted government auditing standards. (For further details on our scope and methodology, see app. I.)

[2]See Vocational Education: Changes at High School Level After Amendments to Perkins Act (GAO/HEHS-95-144, July 12, 1995).

[3]We reported preliminary results of our studies in Vocational Education: Status in School Year 1990-91 and Early Signs of Change at Secondary Level (GAO/HRD-93-71, July 16, 1993) and Vocational Education: Status in 2-Year Colleges in 1990-91 and Early Signs of Change (GAO/HRD-93-89, Aug. 16, 1993).

[4]In this report, all hyphenated years are school years.

[5]About three-quarters of the institutions we sent questionnaires to responded to both surveys. We were unable to adjust sample weights for nonresponse. Consequently, our results may not be generalizable to the universe of public and private nonprofit 2-year colleges and institutes.

Results in Brief

As 2-year colleges have enhanced their vocational-technical programs, their efforts have reflected many of the priorities outlined in the Perkins amendments. Colleges appear to have moved aggressively to increase their use of performance measures—such as placement rates, program completion rates, and results from state licensing exams—in program assessments. In addition, 3 years after the passage of the Perkins amendments, nearly all colleges in our sample indicated that they either offer or are developing tech-prep programs. Other desired changes, however, have been slower to develop. Colleges reported maintaining, but not accelerating, their efforts to integrate academic and vocational education, such as incorporating occupational concepts into academic curricula. However, some often-recommended approaches (such as academic and vocational faculty teaching together in teams), while gaining acceptance, are still not a standard part of vocational education programs.

The removal of the set-aside requirement in the Perkins amendments has not adversely affected enrollments of special population students. Special population students enrolled in 2-year colleges to the same extent in fall 1990 and fall 1993, and participation by special population students in vocational-technical programs remained virtually unchanged over this period. Furthermore, colleges reported either increasing or maintaining the availability of support services for special population students.

Background

Vocational education prepares students for the labor market through an organized sequence of courses that are directly related to employment in jobs that do not require a bachelor's degree. Because jobs at every level require increased cognitive and technical skills, vocational education programs face a continuing challenge to ensure that students are fully prepared for an increasingly demanding labor market.

Vocational education programs are offered at both the high school and the postsecondary school levels. In 1989-90, enrollments in public and private nonprofit 2-year colleges accounted for almost 70 percent of all postsecondary vocational education enrollments.[6] In fall 1990, over 5 million students were enrolled in almost 1,200 public and private nonprofit 2-year colleges.

To strengthen vocational education programs, the Perkins amendments encourage several approaches recommended by many education experts.

[6]The other vocational education students are enrolled in proprietary schools or 4-year colleges. See National Assessment of Vocational Education, Participation in and Quality of Vocational Education, Final Report to Congress, Vol. II, U.S. Dept. of Education (July 1994), p. 41.

For example, the amendments urge colleges to more closely integrate academic and vocational instruction so that vocational education students can develop a better appreciation of how academic learning is related to job requirements. Greater integration can be accomplished in a number of ways. For example, vocational education students may be required to take academic courses as well as vocational education courses, or academic and vocational faculty may teach in teams.

The amendments also encourage approaches designed to smooth the transition from school to the work place. For example, Perkins funding in 1993-94 included $104 million for tech-prep programs, which link high school vocational education programs to postsecondary institutions in a coordinated program (2 years in high school and 2 years in college) leading to an associate degree or certificate.

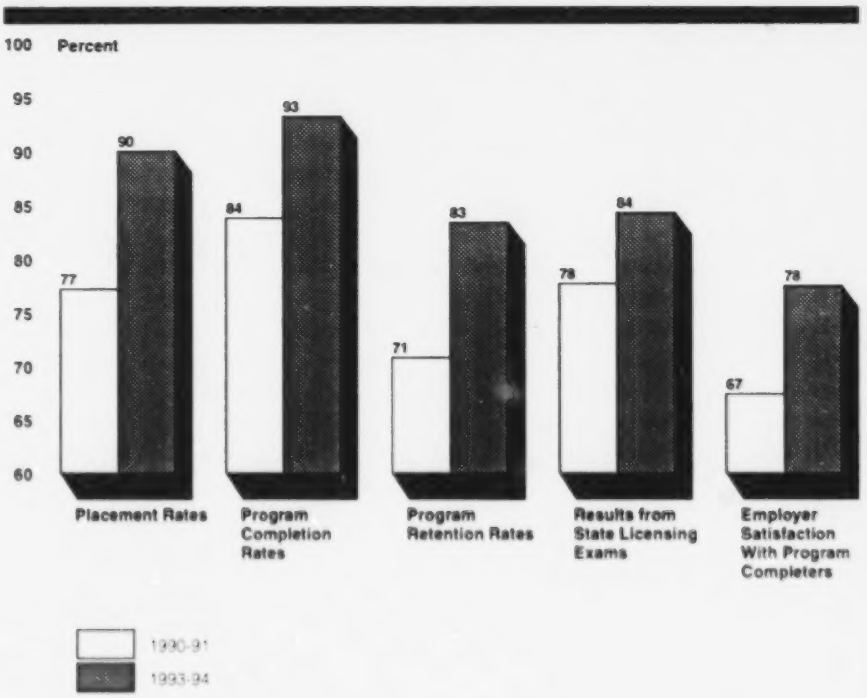
Efforts to Improve Program Quality Show Progress, but Use of Some Recommended Approaches Is Lagging

The Perkins amendments direct college recipients to enhance the quality of vocational education by adopting certain approaches—such as assessing program quality, developing tech-prep programs, and integrating academic and vocational instruction. The amendments suggest that strategies like tech-prep will smooth the transition from school to work for many young adults who do not pursue a 4-year college degree. We found most colleges were moving aggressively to adopt some of these approaches to enhance program quality, especially the development of tech-prep programs. However, colleges have been slower to implement other changes; for example, efforts to promote integration of academic and vocational learning have remained at their 1990-91 level.

2-Year Colleges Increase Use of Quality Measures to Assess Vocational Education Programs

Between 1990-91 and 1993-94, 2-year colleges reported moving aggressively to use quality measures in their program assessments. By 1993-94, over 90 percent of the colleges we surveyed reported using placement rates and program completion rates in their assessments (see fig. 1). An increasing proportion of colleges reported using a number of other performance measures such as program retention rates (from 71 to 83 percent) and the results of state licensing exams (from 78 to 84 percent). Furthermore, almost 4 out of 5 colleges reported using in their assessments measures of employer satisfaction with those who had completed their vocational education programs. The Perkins amendments encourage the use of quality measures in program assessments, but one college we visited told us that its assessment program would have existed even without the Perkins amendments because of state requirements.

Figure 1: Reported Use of Selected Quality Indicators in Program Assessments, 1990-91 and 1993-94



Tech-Prep Programs Almost Universally Adopted Since Perkins Amendments

The 2-year colleges in our sample have overwhelmingly adopted tech-prep programs. By the 1993-94 school year, over 95 percent of these colleges either offered or were developing tech-prep programs, compared with about 40 percent in 1990-91. Roughly 80 percent of the colleges offer formal 2+2 type programs in conjunction with high schools. Under this type of arrangement, the high school and college agree on a coordinated vocational education program (2 years in high school and 2 years in college) where students can earn postsecondary credit for some courses taken while in high school. Furthermore, almost 3 out of 5 colleges include a work-based component, such as co-ops, internships, and apprenticeships, in their tech-prep programs. Administrators at one 2-year college told us that their tech-prep program predated the Perkins amendments, because the state viewed tech-prep as a solution to the increasing dissatisfaction of local employers with the quality of local workers.

2-Year Colleges Slow to Strengthen Integration of Academic and Vocational Instruction

For the most part, 2-year colleges neither increased nor decreased their efforts to integrate academic and vocational instruction. Most colleges reported that they require vocational education students to take certain academic courses. But, in both 1990-91 and 1993-94, only a minority of colleges incorporated academic instruction into vocational curricula, designed special academic classes for vocational students, or incorporated occupational concepts into academic curricula. The use of one recommended approach—team teaching by academic and vocational faculty—more than doubled between 1990-91 and 1993-94. However, by 1993-94, fewer than one in five colleges reported using this approach to a very great or great extent. Two of the colleges we visited reported that vocational education students were required to take academic courses in math and English, but that other efforts to integrate academic and vocational instruction have been limited.

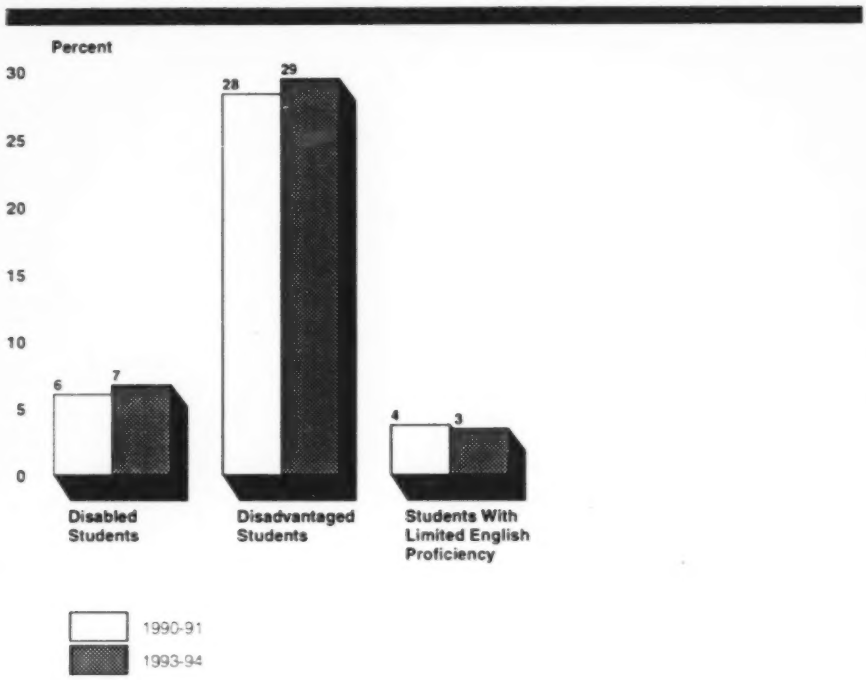
Removal of Set-Aside Requirements Does Not Appear to Have Hurt Special Population Students

The removal of the set-aside requirements in the Perkins amendments raised concern among Members of Congress. However, this change appears to have had no adverse impact on special population students. Neither the level of enrollments by special population students nor the availability of support services has decreased since fall 1990.

Participation in Postsecondary Vocational Education by Special Population Students Maintained

Participation in vocational education programs by special population students remained virtually unchanged between 1990-91 and 1993-94 (see fig. 2). For example, almost 30 percent of vocational education enrollments were economically disadvantaged students in both 1990-91 and 1993-94. Similarly, participation by students with disabilities and students with limited English proficiency remained at their 1990-91 levels (about 6 percent and 3 percent, respectively). The number of special population students increased slightly, keeping pace with the increase in overall postsecondary vocational education enrollments. (For more information about participation by special population students in postsecondary vocational education programs, see app. II.)

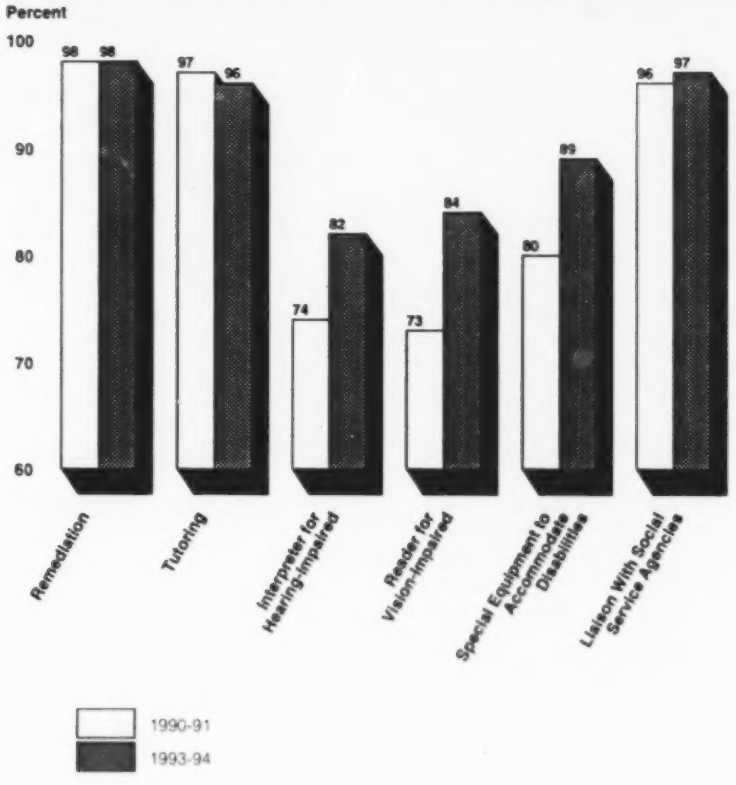
Figure 2: Participation in Postsecondary Vocational Education by Special Population Students, 1990-91 and 1993-94



Availability of Support Services for Special Population Students Little Changed by Perkins Amendments

Two-year colleges continued to provide most support services to special population students at the same levels after the 1990 Perkins amendments (see fig. 3). Almost all 2-year colleges reported offering remediation of basic skills (98 percent), tutoring (96 percent), and liaison with social services agencies (97 percent) to their students. The proportion of colleges offering support services specifically for the disabled significantly increased between 1990-91 and 1993-94. For example, the proportion providing an interpreter for the hearing-impaired increased from 74 percent to 82 percent, and the proportion providing a reader for the vision-impaired increased from 73 percent to 84 percent. Some disabled students we talked with at selected colleges said they were satisfied with the availability of support services. (For more information on the availability of support services, see app. II.)

Figure 3: Availability of Selected Support Services, 1990-91 and 1993-94



Agency Comments

The Department provided comments on a draft of this report. Department officials stated that this is a very good report and agreed with its contents and conclusions. More importantly, based on the information the report provides, in the coming years the Department plans to concentrate on improving the integration of academic and vocational education through its technical assistance efforts and its grant to the National Center for Research in Vocational Education. (The Department's letter is in app. IV.)

Please call me on (202) 512-7014 if you or your staff have any questions. The major contributors to this report are listed in appendix V.

Linda G. Morra
Director, Education and
Employment Issues

Contents

Letter		1
Appendix I Scope and Methodology		12
	Average Differences Across Colleges Used to Measure Changes	12
	Site Visits Supplemented the Questionnaire Data	13
Appendix II Supplementary Analysis		14
	Postsecondary Colleges and Institutions	14
	Colleges' Efforts to Improve Vocational-Technical Programs	14
	Participation by Special Populations in Vocational Education Programs	17
	Availability of Services for Special Population Students	18
	Many Colleges Report That Perkins Amendments Have Positive Impact	20
Appendix III Aggregated Responses to Survey of Postsecondary Institutions		22
Appendix IV Comments From the Department of Education		45
Appendix V GAO Contacts and Staff Acknowledgments		46
Tables		
	Table II.1: Types of Institutions in Sample	14
	Table II.2: Use of Quality Measures in Self-Assessment	15
	Table II.3: Percentage of Colleges Offering Certain Characteristics of Tech-Prep Programs, 1993-94	16

Table II.4: Percentage of Colleges Reporting Integrating Academic and Vocational-Technical Education to a Very Great or Great Extent 16
Table II.5: Percentage of Contributions by Organizations, Business, Agencies, and Groups to Vocational-Technical Education 17
Table II.6: Average Enrollments of Special Population Students in 2-Year Colleges and Institutes 18
Table II.7: Average Enrollments of Special Population Students in Vocational-Technical Programs at 2-Year Colleges and Institutes 18
Table II.8: Availability of Support Services for Special Population Students 19
Table II.9: Availability of Job Placement Services for Special Population Students 20
Table II.10: Percentage of Colleges Reporting Increasing or Decreasing the Following Activities as a Result of the Perkins Amendments 21

Figures

Figure 1: Reported Use of Selected Quality Indicators in Program Assessments, 1990-91 and 1993-94 5
Figure 2: Participation in Postsecondary Vocational Education by Special Population Students, 1990-91 and 1993-94 7
Figure 3: Availability of Selected Support Services, 1990-91 and 1993-94 8

Abbreviations

NAVE National Assessment of Vocational Education

Scope and Methodology

The 1990 amendments to the Perkins Act require that we study the effects of the amendments on access to and participation in vocational education for certain special populations—students with disabilities, disadvantaged students, and students with limited English proficiency. In our analysis we compared the baseline academic year of 1990-91 (before the amendments took effect) with the 1993-94 academic year (after the amendments took effect).

We addressed the following two questions:

- With respect to vocational education programs, to what extent have colleges adopted approaches to enhance quality, such as (1) use of performance measures in program assessments, (2) school-to-work transition activities, and (3) the integration of academic and vocational instruction?
- With respect to special population students, what changes have taken place (1) in their participation in vocational education programs and (2) in the availability of support services?

Average Differences Across Colleges Used to Measure Changes

To address our objectives, we created a panel database from two surveys initially administered to a representative set of public and private nonprofit 2-year colleges and institutes. We developed a questionnaire to obtain data on vocational program improvements, enrollment estimates, program assessments, and funding. We received detailed information on the 1990-91 baseline year during the first phase of our work and comparative information for 1993-94 during the second phase. For each of the two phases, we mailed the questionnaire (with limited revisions for the second phase) to a random sample of 577 public and private nonprofit 2-year colleges and institutes. We selected the sample from a universe of 1,126 institutions we compiled primarily by merging unduplicated membership listings from the American Association of Community and Junior Colleges and the American Technical Education Association.[1] We did not include in our universe providers of adult education courses not associated with 2-year colleges or technical institutes such as for-profit proprietary schools.

[1]The Department of Education confirmed that our approach of using the membership listings would provide a sufficiently complete and current universe of 2-year postsecondary institutions. To identify any additional colleges that were not members of the two primary organizations, we reviewed a commercially available guide to 2-year colleges and lists of selected vocational education conference attendees.

We received responses to both questionnaires from 425 institutions, for a response rate of 74 percent. Since we did not know the characteristics of the nonresponding institutions, we were unable to adjust sample weights for nonresponse. Therefore, our analysis is based on the responses of the 425 institutions that responded to both questionnaires, and the results may not be generalizable to the universe of public and private nonprofit 2-year colleges and institutes.[2] Furthermore, many institutions did not respond to all items in the questionnaire. Unless otherwise noted, our results for an item are based on the responses of those institutions that responded to the item in both questionnaires.

The advantage to using the panel approach is that small changes in the variables of interest are more easily identified than if separate studies were made using two independent samples.[3] The major disadvantage is that some of those surveyed will not respond to both questionnaires, leading to a lower overall response rate. By comparing the data for just those schools that responded to both questionnaires, we were able to focus on differences that occurred between the two surveys uncontaminated by changes in the composition of the sample. We did not verify the information sent to us by the colleges.

Site Visits Supplemented the Questionnaire Data

To supplement the information obtained from our questionnaires, we visited four colleges during the second phase: Bessemer State Technical College, Alabama; Del Mar College, Texas; Oakland Community College, Michigan; and the Community College of Rhode Island. At the colleges, we interviewed administrators, faculty, staff, and students with disabilities; and representatives of business and industry as well as economic development agencies.

[2]If the nonrespondents are similar to the respondents, then our sample is representative of the universe of nonprofit 2-year colleges and institutes.

[3]See Gilbert A. Churchill, Marketing Research Methodological Foundations, 5th Edition (Chicago: Dryden Press, 1991), p. 152.

Supplementary Analysis

This appendix contains supplementary tables and more detailed information about changes in student participation, the availability of support services, and quality measures and standards between the 1990-91 and 1993-94 school years. The data presented in the following sections compare changes only for those colleges and institutes that responded to both our questionnaires. As a result the numbers and percentages reported may differ from those in our 1993 interim report, which reported on all colleges and institutes that responded to our first questionnaire.

Postsecondary Colleges and Institutions

Most of the institutions in our sample described themselves as community colleges or public technical colleges or institutes (see table II.1). On average, these institutions enrolled 4,812 students in fall 1990 and 4,887 students in fall 1993. In each academic year, over half of the students were enrolled in vocational education programs (55 percent in fall 1990 and 54 percent in fall 1993). The average Perkins basic grant received was $175,135 in the 1990-91 academic year and $224,022 in 1993-94. For both the 1990-91 and 1993-94 academic years, the 2-year colleges and institutes in our sample offered an average of 27 vocational-technical programs in fields as diverse as automotive technology, nursing, culinary arts, computer-assisted drafting, and electronics technology.

Table II.1: Types of Institutions in Sample

Type of institution	Percentage
Community college	62.5
Public technical college or institute	18.4
Public junior college	5.2
Private junior college	7.8
Private technical college	0.2
Private nonprofit institute	5.0
Other	0.9

Colleges' Efforts to Improve Vocational-Technical Programs

We found that many colleges were making new efforts to improve the quality of their vocational education programs. Dramatic changes were reported in the self-assessment process, where significantly more colleges were gathering and using more information for assessing their vocational-technical programs. There was a sizable jump in the proportion of colleges offering tech-prep programs. In addition, colleges maintained their focus on integrating academic and vocational education, and on creating or strengthening linkages to the business community.

Additional Data for Assessing Program Quality

Between 1990-91 and 1993-94, more colleges used quality measures in self-assessments. The proportion of colleges using various quality measures increased between the times of our two surveys (see table II.2). These increases were statistically significant in most cases. By 1993, over 80 percent of the colleges in our sample reported using student placement rates, student completion or graduation rates, retention rates, state licensing exam results, and student satisfaction in their self-assessments.

Table II.2: Use of Quality Measures in Self-Assessment

Numbers in percent

Quality measure	1990-91	1993-94
Placement rates	77.2	90.0[a]
Program completion or graduation rates	83.8	93.2[a]
Program retention rates	70.8	83.4[a]
Starting salary of program completers	50.8	52.5
Increase in wages over 1 year	4.9	8.0
Length of time to gain employment after program completion	18.8	26.8[a]
Pretest-posttest of occupational competency gains	20.2	32.8[a]
Pretest-posttest for academic competency gains	29.9	48.3[a]
Percent of vocational-technical students going to 4-year institution	36.7	51.7[a]
Results of state licensing exams	77.7	84.3[a]
Employer satisfaction with those who complete program	67.4	77.5[a]
Student satisfaction with education	78.2	86.7[a]

[a]The difference between fall 1990 and fall 1993 is statistically significant at the 0.05 level.

Tech-Prep Programs Offered

Before the Perkins amendments, about 40 percent of the colleges in our sample reported offering tech-prep programs. By 1993-94, over 95 percent of these colleges either offered or were developing tech-prep programs. Most of the colleges in our sample (over 70 percent) offer tech-prep programs that involve formal agreements with high schools, give college credit for certain courses taken in high school, offer applied academic courses as well as integrating academic and vocational courses, and involve high school courses (see table II.3). However, fewer colleges (about 60 percent) offer tech-prep programs that have a work-based component.

Table II.3: Percentage of Colleges Offering Certain Characteristics of Tech-Prep Programs, 1993-94

Characteristic	Percentage
Formal 2+2 (2 years in high school and 2 years in college) arrangement with high school	79.0
Postsecondary credit given for courses completed in high school	80.4
Curriculum includes applied academic courses	78.8
Tech-prep courses integrate academic and vocational instruction	79.4
Tech-prep involves high-tech courses	73.5
Work-based component, such as apprenticeships, co-ops, and internships	59.6

Integrating Vocational and Academic Instruction

The colleges we surveyed generally maintained—but did not increase—their efforts to integrate academic and vocational instruction. For the most part, there were no significant changes in colleges' efforts to formally blend academic and vocational instruction. We observed significant increases, however, in the use of one integration technique—academic and vocational faculty teaching in teams. The proportion of colleges that reported using this method to a very great or great extent more than doubled (from 6.4 percent to 16.3 percent). In both 1990-91 and 1993-94, the major method used to integrate vocational and academic instruction was teaching vocational-technical students academic skills in required academic courses—about three-quarters of the colleges reported using this method to a very great or great extent (see table II.4).

Table II.4: Percentage of Colleges Reporting Integrating Academic and Vocational-Technical Education to a Very Great or Great Extent

Category	1990-91	1993-94
Academic skills were taught in required academic classes	85.8	77.9
Academic curriculum formally incorporates occupational concepts	31.7	33.1
Academic skills instruction was formally incorporated into vocational-technical class curriculum	38.4	40.5
Special academic classes were designed specifically for vocational-technical programs	30.0	30.3
Academic and vocational faculty taught in teams	6.4	16.3[a]

[a]The difference between fall 1990 and fall 1993 is statistically significant at the 0.05 level.

Ties to Area Businesses and the Local Community

The colleges in our sample maintained strong ties with area businesses and the local community (see table II.5). For example, nearly all colleges

(95 percent in the 1993-94 school year) sought help from organizations in the local community to help develop or modify the curriculum. Over 80 percent of the colleges reported that industry people taught at their college and advised students on the skills needed in the work place, local organizations donated supplies and equipment, local businesses provided work-based positions, and local organizations and businesses assessed the quality of their vocational-technical programs.

Table II.5: Percentage of Contributions by Organizations, Business, Agencies, and Groups to Vocational-Technical Education

Category	1990-91	1993-94
Faculty worked at local industry for their professional development	63.2	62.4
Industry people taught in the institution	82.0	86.0
Helped develop/modify curriculum	93.1	95.0
Advised students on skills needed in work place	85.0	89.6
Donated money to a vocational-technical program	60.3	63.0
Donated material, supplies, or equipment to a vocational-technical program	88.4	85.7
Provided work-study/cooperative education/apprenticeship positions	87.2	87.4
Made facilities available to other than cooperative education students	62.6	61.8
Evaluated students for competency attainment	45.5	49.0
Helped develop competency standards	66.5	71.4
Assessed vocational-technical program quality	85.2	86.0

Participation by Special Populations in Vocational Education Programs

We found no significant changes in overall enrollments of special population students between 1990-91 and 1993-94 (see table II.6). The average number of disabled students and students receiving Pell grants (disadvantaged students) increased between 1990-91 and 1993-94 in the colleges we surveyed. This increase in numbers also represents a slight relative increase in enrollment by these two special populations. Enrollments by students with limited English proficiency decreased in both absolute and relative terms (from 3.8 percent of total enrollments to 2.8 percent).

Table II.6: Average Enrollments of Special Population Students in 2-Year Colleges and Institutes

Percentage of student body in parentheses

Category	Fall 1990	Fall 1993
Students with disabilities	179 (5.2)	226 (5.8)
Students receiving Pell grants	759 (25.3)	838 (25.5)
Students with limited English proficiency	339 (3.8)	219 (2.8)

Note: The difference between fall 1990 and fall 1993 is not statistically significant at the 0.05 level.

Enrollments by students from special populations in vocational-technical programs increased both in absolute numbers and as a percentage of the vocational education student body between 1990-91 and 1993-94 (see table II.7). However, none of the changes were statistically significant.

Table II.7: Average Enrollments of Special Population Students in Vocational-Technical Programs at 2-Year Colleges and Institutes

Percentage of vocational education student body in parentheses

Category	Fall 1990	Fall 1993
Students with disabilities	96 (6.0)	105 (6.7)
Students receiving Pell grants	407 (28.2)	423 (29.4)
Students with limited English proficiency	88 (3.7)	92 (3.4)

Note: The difference between fall 1990 and fall 1993 is not statistically significant at the 0.05 level.

Availability of Services for Special Population Students

In general, 2-year colleges continued to provide support services to special population students at the same levels in 1993-94 as they did in 1990-91 (see table II.8). We did find statistically significant increases in services directed toward the disabled, such as services for the hearing- and vision-impaired, and special equipment for the disabled. The colleges and institutes in our sample offered a wide variety of support services for special population students in both the 1990-91 and 1993-94 school years. Virtually all institutions offered testing and assessment, remediation services, and tutoring services. The services cited as least available were personal care attendants (available at less than 30 percent of the colleges) and transportation services for students with disabilities (available at less than 40 percent of the colleges).

Table II.8: Availability of Support Services for Special Population Students

Percentage of colleges with service available		
Type of service	**1990-91**	**1993-94**
Curriculum/course modification for students with disabilities	83.7	85.6
Testing/assessment	97.6	98.4
Remediation of basic academic skills	97.9	98.2
Instructional aides	85.8	89.3
Tutoring	96.8	96.0
English-as-second-language courses	66.7	67.5
Interpreter service for the hearing-impaired	74.0	81.8[a]
Reader for vision-impaired	73.2	84.0[a]
Personal care attendant	28.5	29.4
Special/modified equipment to accommodate disabilities	79.7	88.8[a]
Removal of physical barriers	93.2	96.7[a]
Transportation services for students with disabilities	38.9	39.2
Liaison with social service agencies	96.0	97.3
Day care for children of students	62.7	63.7

[a]The difference between 1990-91 and 1993-94 is statistically significant at the 0 05 level

For the most part, the availability of job placement services did not change between 1990-91 and 1993-94. There were statistically significant increases in the availability of career assessment, career exploration, and mock job interviewing services. Special population students have access to a wide range of job placement services at the colleges in our sample (see table II.9). Nearly all colleges offered career counseling, career assessment services, career exploration services, listings of job openings, and resume preparation services. Very few colleges offered transportation to interviews for special population students or job support groups (less than 20 percent).

Table II.9: Availability of Job Placement Services for Special Population Students

Percentage of colleges with service available		
Type of service	**1990-91**	**1993-94**
Career counseling	97.9	99.2
Career assessment	93.4	97.1[a]
Career exploration	93.4	97.9[a]
Mock job interviewing	80.1	87.9[a]
Job list or bank	92.6	94.4
Job development	67.3	69.7
Job coaching	53.5	55.4
Job mentoring	38.1	42.2
Job support groups	28.3	28.0
Interview scheduling	70.2	72.9
Transportation to interviews	16.8	14.6
Preparation of resumes	91.5	95.0

[a]The difference between 1990-91 and 1993-94 is statistically significant at the 0.05 level.

Many Colleges Report That Perkins Amendments Have Positive Impact

Over 45 percent of the 2-year colleges in our sample reported that the Perkins amendments improved their ability to increase services and enhance program quality (see table II.10). For example, many colleges stated that the Perkins amendments helped them increase their ability to purchase state-of-the-art equipment (47 percent), extend services to special population students (60 percent), increase access to vocational-technical programs by special population students (49 percent), offer tutoring and remediation for vocational-technical students (48 percent), improve the quality of vocational-technical programs (49 percent), and develop tech-prep programs (60 percent). Although over 40 percent of the colleges said that the amendments increased their ability to spend Perkins funds where they are most needed, two-thirds of the colleges stated that the amendments increased the amount of record keeping required by the state to meet Perkins requirements.

Table II.10: Percentage of Colleges Reporting Increasing or Decreasing the Following Activities as a Result of the Perkins Amendments

Category	Increase	Decrease
Your institution's ability to purchase state-of-the-art equipment	46.8	21.9
Your institution's ability to spend Perkins funds where needed most	42.9	28.2
Your institution's ability to plan vocational programs and use Perkins funds	38.9	21.9
The equity with which Perkins funding is allocated among institutions	29.4	25.1
The amount of record keeping required by state to meet Perkins requirements	66.5	8.9
The extent of services your institution offers vocational-technical students in special populations	59.9	12.0
The extent of services your institution offers vocational-technical students in general	43.8	17.4
The access special population students have to vocational-technical programs	48.7	11.6
Tutoring and remediation for vocational-technical students in general	48.0	12.4
Quality of vocational-technical programs	49.2	13.1
Your institution's program improvement efforts	54.5	13.9
Technical education standards that students must achieve	31.9	11.1
Academic education standards that students must achieve	26.3	11.3
Use of applied curricula in vocational-technical courses	35.4	11.1
Use of integration of academic and vocational-technical courses	40.8	11.1
Application of measures and standards to evaluate the effectiveness of programs	49.3	9.7
Development of tech-prep programs	59.8	8.6
Professional development opportunities for instructors and administrators	44.4	12.5

Aggregated Responses to Survey of Postsecondary Institutions

U.S. GENERAL ACCOUNTING OFFICE
Survey of Postsecondary Institutions

INTRODUCTION

With the enactment of the Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990 (P.L. 101-392), the Congress mandated that the U. S. General Accounting Office conduct a study of vocational-technical education with specific emphasis on special population students. To do this we are surveying a random sample of postsecondary institutions to gather information about vocational-technical education and special populations.

The purpose of this questionnaire is to collect information about your experiences with vocational-technical education during the 1993-1994 academic year. You may recall that we conducted a similar survey in 1991-1992. This survey is the second phase of our mandated study of vocational education.

INSTRUCTIONS

This questionnaire seeks information on the content of, participation in, and funding for vocational-technical education.

Because there are many postsecondary institutions and many different types of programs and courses offered under the general title of "vocational-technical education," we are using the definition from the 1990 Perkins Act amendments.

The Act defines a vocational education program as an "organized educational program offering a sequence of courses which are directly related to the preparation of individuals in paid or unpaid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree." In this questionnaire, any reference to a "vocational-technical program" refers to such a sequence of courses. Do not include non-credit courses, or courses such as continuing education, personal growth, or exploratory courses that are not part of a sequence leading to an occupational skill.

The questionnaire includes questions on the access to and participation in vocational-technical education by students who are members of certain special population groups. Special populations are those who have disabilities, are economically disadvantaged, or have limited English proficiency.

A service is formal support for special populations. A glossary of these and other important terms used in this questionnaire appears on the last page of the questionnaire.

We realize that your time is very limited, and that in order to answer all of the questions you will probably need to consult with other people. Please designate one person in your institution to have overall responsibility for completing this questionnaire, and provide the following information so that we may call to clarify answers, if necessary.

Name: _____

Title: _____

Telephone number: _____

If you have any questions about this questionnaire, please call Wanda Pearson at (202) 512-3669.

Please return the questionnaire in the enclosed postage paid envelope **within 10 working days** of receipt to:

U.S. General Accounting Office
Attn: Amy Friedlander
NGB/Education and Employment
441 G Street, NW
Washington DC, 20548

Note: 425 2-year colleges returned questionnaires for both 1990-91 and 1993-94. The "n" shown for each item denotes the number of colleges that responded to that item.

Due to rounding, percentages may not total 100%.

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INSTITUTIONAL PROFILE AND PERKINS FUNDING

1. Which of the following best describes this postsecondary institution as it operated during the 1993-1994 academic year? (CHECK ONE) (n=418)

65%	Community college
18%	Public technical college or institute
3%	Public junior college
7%	Private junior college
1%	Private technical college
5%	Private non-profit institute
0%	Private for-profit institute--->**STOP! PLEASE RETURN THIS QUESTIONNAIRE**
2%	Other (PLEASE SPECIFY)

2. Did your institution receive any funding for vocational-technical education from any source, for the 1993-1994 academic year? (CHECK ONE) (n=404)

91%	Yes----->GO TO QUESTION 3
9%	No, received no funding-->**STOP! PLEASE RETURN THIS QUESTIONNAIRE**

3. In the table below, for vocational-technical education in your institution during the 1993-1994 academic year, please provide your best **estimate** of the total funding your institution received from each source listed below. (ENTER AMOUNTS; IF NONE ENTER "0")

	Source of funds for vocational-technical education	1993-1994 academic year (mean)
1.	Tuition (excluding Pell grants) and fees	$1,390,781 (n=375)
2.	Local funds	$ 961,311 (n=375)
3.	State funds	$3,281,126 (n=375)
4.	Federal funds:	
4a.	Perkins basic grant	$ 222,643 (n=376)
4b.	Perkins competitive grants	$ 73,233 (n=376)
4c.	JTPA 8% funds	$ 19,443 (n=375)
4d.	Other JTPA funds	$ 85,397 (n=375)
4e.	JOBS funds	$ 14,915 (n=375)
4f.	Pell grants	$ 732,303 (n=375)
4g.	Other federal funds	$ 180,390 (n=375)
5.	Other (gifts, endowments, internal sources, etc.)	$ 188,204 (n=375)
6.	TOTAL YEARLY FUNDING FOR VOCATIONAL-TECHNICAL EDUCATION IN THIS INSTITUTION ---------->	$6,879,169 (n=375)

4. Did your institution receive a Perkins basic grant for the 1993-1994 academic year? (CHECK ONE) (n=350)

85% Yes---> GO TO QUESTION 5

15% No, received no grant-> GO TO QUESTION 8

5. For the 1993-1994 academic year, please **estimate** the amount of your institution's Perkins basic grant (as reported in line 4a of question 3) spent (or planned to be spent) for each of the following. (ENTER AMOUNTS; IF NONE, ENTER "0")

	Uses of your institution's Perkins basic grant	1993-1994 academic year (mean)
1.	To pay salary or benefits for new teaching positions	$ 7,394 (n=331)
2.	To pay salary or benefits for existing teaching positions	$ 27,727 (n=330)
3.	To pay salary or benefits for new support positions (counselors, tutors, administrators, etc.)	$ 20,516 (n=330)
4.	To pay salary or benefits for existing support positions	$ 73,582 (n=330)
5.	For faculty education/professional development, including travel costs	$ 6,718 (n=330)
6.	For curriculum development	$ 7,827 (n=330)
7.	For supplies	$ 11,380 (n=330)
8.	To purchase new or replacement equipment used specifically to accommodate special populations	$ 17,627 (n=330)
9.	To purchase new or replacement equipment for vocational-technical programs	$ 45,238 (n=330)
10.	For institutional development (promotion, marketing, etc.)	$ 1,719 (n=330)
11.	Other (PLEASE SPECIFY)	$ 14,907 (n=330)
12.	TOTAL PERKINS BASIC GRANT ---------->	$ 234,534 (n=330)

6. Once again, consider your institution's Perkins basic grant. For the 1993-1994 academic year, please **estimate** the percentage of your institution's Perkins basic grant spent (or planned to be spent for 1993-1994) for each of the following. (ENTER PERCENTS; IF NONE, ENTER "0")

	Uses of your institution's Perkins basic grant	1993-1994 academic year (mean)
1.	Continue vocational-technical program(s) that ex sted in the prior year (n=321)	13 %
2.	Improve vocational-technical program(s) that existed in the prior year (n=321)	28 %
3.	Provide new vocational-technical program(s) (n=321)	3 %
4.	Continue special population support services that existed in prior years (n=321)	32 %
5.	Improve special population support services (n=321)	13 %
6.	Provide new support services for special populations (n=321)	8 %
7.	Other (PLEASE SPECIFY) (n=321) _____ _____	3 %
8.	TOTAL SPENT---------->	100%

7. What principal method did your institution use to allocate your Perkins funds for programs during the 1993-1994 academic year? (CHECK ONE) (n=317)

- 7% Allocated to campus site(s) that served a concentration of special populations
- 35% Allocated to program(s) that served a concentration of special populations
- 3% Allocated to program(s) that needed to serve more special populations
- 4% Allocated to program(s) that needed improvement
- 47% Allocated funds based on a combination of the above categories
- 4% Allocated based on other factors (PLEASE SPECIFY)

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8. Please indicate in part (A) whether each of the following changes in your institution's vocational-technical programs and services occurred between the 1990-1991 academic year and the 1993-1994 academic year. If "yes" in part (A), check the one column in part (B) that best describes the cause of this change. (CHECK YES OR NO FOR EACH CHANGE; IF YES, CHECK THE ONE COLUMN THAT BEST DESCRIBES THE CAUSE)

Type of change between 1990-1991 and 1993-1994 academic years in vocational education programs	Did change occur? (A)		Main cause of change (B)				
	No	Yes-->	Elimination of set asides in Perkins Act	Change in amount of Perkins funding	Other changes in Perkins legislation	Other reasons	Don't know
1. Added program(s) (n=379)	38%	62%	1%	13%	3%	81%	3%
2. Added service(s) for special populations (n=377)	23%	77%	4%	41%	23%	30%	1%
3. Eliminated program(s) (n=368)	59%	41%	2%	3%	5%	87%	3%
4. Eliminated service(s) for special populations (n=371)	94%	6%	32%	32%	23%	14%	0%
5. Expanded enrollment in existing program(s) (n=374)	31%	69%	2%	20%	5%	69%	5%
6. Expanded content in existing program(s) (n=374)	28%	72%	0%	23%	10%	64%	2%
7. Expanded existing service(s) for special populations (n=377)	22%	78%	4%	43%	18%	34%	1%
8. Reduced existing program(s) (n=368)	80%	20%	1%	7%	3%	87%	1%
9. Reduced existing service(s) for special populations (n=371)	94%	6%	22%	48%	26%	4%	0%
10. Used Perkins funding to support programs formerly supported with other funds (n=371)	92%	8%	7%	50%	27%	13%	3%
11. Used other funding to support programs formerly supported with Perkins funds (n=368)	58%	42%	13%	32%	24%	30%	1%
12. Purchased equipment to accommodate special populations (n=372)	26%	74%	2%	35%	24%	38%	2%
13. Purchased equipment for any students (not limited to special populations) (n=371)	30%	70%	3%	28%	13%	54%	2%
14. Upgraded skills of faculty (n=374)	18%	82%	2%	25%	14%	58%	1%
15. Improved curriculum (n=376)	11%	89%	2%	23%	16%	57%	1%
16. Other (PLEASE SPECIFY) (n=16)	38%	62%	8%	25%	8%	42%	17%

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9. During the 1993-1994 academic year, did your postsecondary institution offer vocational-technical programs (sequenced courses leading to an occupational skill) providing other than a baccalaureate or advanced degree, directly related to the preparation of individuals for paid or unpaid employment? (CHECK ONE) (n=384)

100%	Yes
0%	No--> GO TO QUESTION 55

10. During the 1993-1994 academic year, how many vocational-technical programs (sequenced courses leading to an occupational skill) did your postsecondary institution offer? (ENTER NUMBERS) (n=382)

27 (mean)	Programs in the 1993-1994 academic year

11. Consider all of your vocational-technical programs. During the 1993-1994 academic year, to how many of these programs did you allocate any of your Perkins basic grant? (ENTER NUMBER OF PROGRAMS; IN NONE, ENTER "0") (n=368)

9 (mean)	Programs in 1993-1994 academic year

QUALITY MEASURES AND STANDARDS

12. Institutions might have measures of quality for one or more of their vocational-technical programs and have standards associated with those measures that are to be met by the programs. For example, a quality measure might be the placement rate of students who have completed the program, while the standard that the institution might use for that measure is a specified percentage of the program completers that should be placed.

Listed below are items that could be considered measures of quality in vocational-technical programs. Please indicate (A) whether or not your institution will use each measure to assess any vocational-technical programs in the 1993-1994 academic year, and (B) whether or not your institution has a standard associated with each measure in 1993-1994. (CHECK "YES" OR "NO" FOR EACH MEASURE AND STANDARD ASSOCIATED WITH THAT MEASURE)

Possible quality measures	Will use in a 93-94 self-assessment? (A)		Is there a standard in 1993-1994? (B)	
	No	Yes-->	No	Yes
1. Placement rates (employment, military service, or additional training/education) (n=381)	10%	90%	36%	64%
2. Program completion or graduation rates (n=381)	7%	93%	37%	63%
3. Program retention rates (n=379)	17%	83%	47%	53%
4. Starting salary of those who complete a program (n=377)	48%	52%	72%	28%
5. Increase in wages over 1-year period (n=373)	92%	8%	74%	26%
6. Length of time to gain employment after program completion (n=373)	73%	27%	60%	40%
7. Pretest-posttest for occupational competency gains (n=375)	67%	33%	28%	72%
8. Pretest-posttest for academic competency gains (n=375)	52%	48%	31%	69%
9. Percent of vocational-technical students going to 4-year institutions (n=375)	48%	52%	72%	28%
10. Results of state licensing exams (n=375)	16%	84%	34%	66%
11. Employer satisfaction with those who complete a program (n=377)	22%	78%	58%	42%
12. Student satisfaction with vocational-technical education received (n=377)	13%	87%	58%	42%
13. Other (PLEASE SPECIFY) (n=26)	0%	100%	36%	64%

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13. Listed below are the same items that could be considered measures of quality in vocational-technical programs. Please indicate whether or not (A) your State required the use of each measure to assess any of your vocational-technical programs in the 1993-1994 academic year, and, if "yes," (B) whether or not your State had a standard (or goal) associated with that measure for the 1993-1994 academic year. (CHECK "YES" OR "NO" FOR EACH MEASURE, AND IF "YES," INDICATE IF A STANDARD WAS REQUIRED BY THE STATE)

Possible quality measures	Did state require measure in 1993-1994? (A)		Did state require standard in 1993-1994? (B)	
	No	Yes ------>	No	Yes
1. Placement rates (employment, military service, or additional training/education) (n=377)	32%	68%	28%	72%
2. Program completion or graduation rates (n=377)	27%	73%	34%	66%
3. Program retention rates (n=375)	48%	52%	44%	56%
4. Starting salary of those who complete a program (n=374)	74%	26%	64%	36%
5. Increase in wages over 1-year period (n=373)	96%	4%	73%	27%
6. Length of time to gain employment after program completion (n=375)	86%	14%	44%	56%
7. Pretest-posttest for occupational competency gains (n=370)	78%	22%	32%	68%
8. Pretest-posttest for academic competency gains (n=372)	69%	31%	32%	68%
9. Percent of vocational-technical students going to 4-year institutions (n=372)	73%	27%	67%	33%
10. Results of state licensing exams (n=368)	50%	50%	34%	66%
11. Employer satisfaction with those who complete a program (n=373)	64%	36%	45%	55%
12. Student satisfaction with vocational-technical education received (n=370)	65%	35%	50%	50%
13. Other (PLEASE SPECIFY) (n=20)	10%	90%	21%	79%

14. For the 1993-1994 academic year, for about how many vocational-technical programs does your institution apply a standard to assess the quality of that program? (ENTER NUMBER; ENTER "0" IF NONE) (n=368)

16 (mean)	Vocational-technical programs will be assessed using standards in the 1993-1994 academic year

15. For the 1993-1994 academic year, for about how many vocational-technical programs that were allocated any of your Perkins basic grant does your institution apply a standard? (ENTER NUMBER; ENTER "0" IF NONE) (n=352)

8 (mean)	Perkins-funded vocational-technical programs will be assessed using standards in the 1993-1994 academic year

RECRUITING SPECIAL POPULATIONS

16. In the 1993-1994 academic year, did (or will) your institution target recruitment efforts for vocational-technical programs specifically toward members of special populations? (CHECK ONE) (n=383)

88% Yes

12% No---> GO TO QUESTION 18

17. In the 1993-1994 academic year, where or how did (or will) representatives of your institution attempt to recruit special population students? (CHECK ALL THAT APPLY) (n=336)

	1993-94
1. Area comprehensive high school	94%
2. Special schools for students at risk	42%
3. Special schools for students with disabilities	24%
4. Area vocational technical institutions	51%
5. Social service agencies	82%
6. Vocational rehabilitation agencies	82%
7. Community-based organizations	76%
8. Religious organizations	26%
9. JTPA program	82%
10. College fair	84%
11. Through print, radio, TV, and other media advertising	90%
12. Other (SPECIFY)	12%

POST-COMPLETION PLACEMENT INFORMATION

18. Does your institution have any placement information on students who have completed their programs of study? Completers are those receiving degree, certificate, diploma, or other formal recognition of completion. (CHECK ONE) (n=377)

    89% Yes

    11% No ---> GO TO QUESTION 24

19. What is the most recent completing class for which you have post-graduation/ completion employment or education information? (ENTER YEAR) (n=332)

    Completing class of 1993 (median)

20. How many students were in this class? (ENTER NUMBER) (n=324)

    740 (mean) students

21. About what percent of these students do you have information for? (ENTER PERCENT) (n=305)

    69 (mean) percent

22. Consider the students in the most recent class of completers for which you collected information. Please estimate (A) the number of these completers who were doing each of the following and (B) the number of these completers in each case who were vocational-technical students. Please do not double count. If a student is working while taking classes, that student should be counted as taking classes. (ENTER NUMBERS; ENTER "0" IF NONE)

		Total number of completers (A) (mean)	Number of vocational-technical completers (B) (mean)
1.	Were in a 4-year college	99 (n=257)	26 (n=295)
2.	Were in another program at this institution	15 (n=255)	13 (n=294)
3.	Were working in the area of training	142 (n=256)	183 (n=294)
4.	Were working outside the area of training	30 (n=255)	26 (n=294)
5.	Were working but job relationship to training unknown	16 (n=255)	11 (n=294)
6.	Were in the military	2 (n=255)	1 (n=294)
7.	Were unemployed	21 (n=255)	23 (n=294)
8.	Status was unknown at the time (including those that did not respond)	124 (n=255)	66 (n=294)
9.	TOTAL	416 (n=262)	279 (n=297)

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23. Is completer placement information readily available for vocational-technical students who are members of the following special populations? (CHECK "YES" OR "NO" FOR EACH SPECIAL POPULATION)

YES	NO	
63%	37%	Students with disabilities (n=329)
66%	34%	Economically disadvantaged (Pell grant recipients) (n=332)
56%	44%	Limited English proficient (LEP) (n=325)

COMPETENCY-BASED PROGRAMS

24. Competency-based programs are those that have a minimum set of occupational "competencies" or "standards," formally incorporated into the curriculum that are beyond standard course requirements, and that students must master in order to complete the program in which they are enrolled. Consider only vocational-technical programs at this institution in the 1993-1994 academic year. Were any of these programs competency-based? (CHECK ONE) (n=374)

72% Yes

28% No----> GO TO QUESTION 28

25. Consider only the vocational-technical programs at this institution in the 1993-1994 academic year. Please enter (A) the total number of programs that are competency-based in the 1993-1994 academic year, and (B) the number of these competency-based programs, if any, that are at least partially Perkins-funded. (ENTER NUMBER; IF NONE, ENTER "0")

		1993-1994 academic Year (mean)
A	Total number of competency-based programs (n=276)	16
B	Number of Perkins-funded competency-based programs (n=266)	7

26. Please enter the number of your institution's vocational-technical programs, if any, that used competency-based standards primarily derived from one of the following sources for the 1993-1994 academic year. (ENTER NUMBER; IF NONE, ENTER "0")

	Primary source of competency standard	Number of programs with competency-based standards in 1993-1994 (mean)
1.	Federal licensing requirements (Federal Aviation Administration, etc.) (n=275)	0
2.	Commercial source or educational organization (n=275)	1
3.	National trade, industrial, health, or professional organization (n=275)	2
4.	Regional accrediting organization (n=275)	1
5.	State licensing requirements (n=275)	2
6.	State-wide trade, industrial, health, or professional organization (n=275)	1
7.	State government (n=275)	2
8.	Local business or industry (n=275)	5
9.	This institution alone (n=275)	2
10.	Don't know source (n=275)	0
11.	Other (PLEASE SPECIFY) (n=275)	1
12.	**TOTAL** (Total number should equal total number of programs in question 25A.) (n=276)	14

27. For the 1993-1994 academic year, please enter the number of vocational-technical programs, if any, that apart from an associate degree or a certificate of completion, issued (or will issue) competency certificates to students which listed the specific occupational skills that students mastered. Also enter the number of these programs, if any, that were at least partially Perkins-funded. (ENTER NUMBER; IF NONE, ENTER "0")

3 (mean) Total number of programs with competency certificates (n=271)

1 (mean) Number of Perkins-funded programs with competency certificates (n=257)

28. For the 1993-1994 academic year, did (or will) this institution offer to retrain, at its own expense, any graduates/completers that did not have the minimum skills needed to perform the work for which they were trained? (CHECK ONE) (n=376)

26% Yes

74% No

29. Listed below are ways that community organizations, businesses, agencies, or groups can help vocational-technical programs. For the 1993-1994 academic year, (A) please indicate if any organizations made each type of contribution and, if yes, (B) the extent of each type of contribution that these organizations made to vocational-technical programs. (FOR COLUMN A, CHECK "YES" OR "NO"; FOR COLUMN B, CHECK ONE BOX)

	Contribution made? (A)		Extent of contribution by organizations (B)				
Contribution	No	Yes-->	Very great extent	Great extent	Moderate extent	Some extent	Little extent
1. Faculty worked at local industry for their professional development (n=376)	39%	61%	7%	17%	37%	31%	7%
2. Industry people taught in the institution (n=379)	14%	86%	10%	23%	39%	23%	5%
3. Helped develop/modify curriculum (n=381)	5%	95%	13%	32%	34%	17%	3%
4. Advised students on skills needed in work-place (n=382)	11%	89%	6%	24%	37%	27%	5%
5. Donated money to a vocational-technical program (n=374)	38%	62%	9%	13%	36%	28%	14%
6. Donated material, supplies, or equipment to a vocational-technical program (n=377)	15%	85%	6%	20%	36%	31%	8%
7. Provided work-study/cooperative education/ apprenticeship positions (n=381)	13%	87%	9%	28%	38%	20%	3%
8. Provided other forms of work based learning (n=373)	48%	52%	7%	25%	33%	24%	12%
8. Made facilities available to other than cooperative education students (n=375)	38%	62%	6%	22%	29%	33%	10%
9. Evaluated students for competency attainment (n=374)	51%	49%	9%	20%	38%	26%	8%
10. Helped develop competency standards (n=375)	29%	71%	10%	26%	32%	26%	5%
11. Assessed vocational-technical program quality (n=377)	15%	85%	8%	25%	40%	24%	4%
12. Other (PLEASE SPECIFY) (n=9)	22%	78%	43%	14%	0%	43%	0%

30 Listed below are support services that might be offered to vocational-technical special population students. For each service, please indicate (A) whether, during the 1993-1994 academic year, it was not available, available but not used, or available and used by special population students at your institution, and (B) for the students who needed each service, the extent to which their needs were met. (ANSWER ONE FOR (A) AND ONE FOR (B))

Support services	Service availability to special populations in the 1993-1994 academic year (A)			For the special population students who needed each service, to what extent were their needs met in the 1993-1994 academic year? (B)			
	Not available	Available but not used	Available and used	Very great or great extent	Moderate extent	Some or little extent	N/A - not needed
1. Curriculum/course modification for students with disabilities (n=379)	14%	18%	68%	24%	34%	27%	15%
2. Testing/assessment (n=384)	2%	3%	96%	52%	25%	12%	11%
3. Remediation of basic academic skills (n=384)	2%	1%	97%	66%	20%	4%	10%
4. Instructional aides (n=375)	11%	5%	84%	42%	29%	18%	11%
5. Tutoring (n=382)	4%	2%	94%	54%	27%	11%	9%
6. English as second language courses (n=379)	33%	12%	55%	35%	18%	21%	26%
7. Interpreter service for the hearing impaired (n=380)	19%	27%	54%	30%	17%	23%	31%
8. Reader for vision impaired (n=378)	16%	27%	57%	25%	23%	25%	28%
9. Personal care attendant (n=370)	70%	15%	15%	17%	9%	14%	60%
10. Special/modified equipment to accommodate disabilities (n=382)	12%	16%	72%	24%	27%	31%	18%
11. Removal of physical barriers (n=376)	4%	10%	86%	34%	33%	20%	12%
12. Transportation services for students with disabilities (n=376)	61%	9%	30%	16%	20%	20%	43%
13. Liaison with social service agencies (n=379)	3%	4%	93%	42%	35%	14%	9%
14. Day care for children of students (n=382)	37%	2%	62%	36%	28%	19%	18%
15. Other (PLEASE SPECIFY) (n=27)	0%	4%	96%	50%	32%	4%	14%

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31. Listed below are job placement services that might be offered to vocational-technical special population students. For each service, please indicate (A) whether, during the 1993-1994 academic year, it was not available, available but not used, or available and used by special population students at your institution and (B) for the special population students who needed each service, the extent to which their needs were met. (ANSWER ONE FOR (A) AND ONE FOR (B))

Job placement services	Service availability to special populations in the 1993-1994 academic year (A)			For the special population students who needed each service, to what extent were their needs met in the 1993-1994 academic year? (B)			
	Not available	Available but not used	Available and used	Very great or great extent	Moderate extent	Some or little extent	N/A - not needed
1. Career counseling (n=385)	1%	2%	97%	44%	38%	10%	9%
2. Career assessment (n=383)	3%	3%	94%	33%	46%	13%	8%
3. Career exploration (n=385)	2%	4%	94%	30%	45%	18%	7%
4. Mock job interviewing (n=380)	12%	11%	77%	19%	41%	30%	10%
5. Job list or bank (n=383)	6%	1%	93%	36%	39%	17%	8%
6. Job development (n=377)	31%	4%	64%	23%	36%	24%	16%
7. Job coaching (n=376)	45%	5%	50%	18%	31%	28%	24%
8. Job mentoring (n=377)	58%	7%	34%	16%	26%	26%	32%
9. Job support groups (n=372)	71%	7%	22%	14%	17%	25%	44%
10. Interview scheduling (n=379)	27%	5%	67%	22%	38%	28%	11%
11. Transportation to interviews (n=375)	85%	6%	8%	13%	11%	14%	62%
12. Preparation of resumes (n=382)	5%	3%	92%	40%	35%	17%	9%
13. Other (PLEASE SPECIFY) (n=31)	0%	3%	97%	63%	27%	3%	7%

32. During the 1993-1994 academic year, to what extent, if any, did programs in your institution use each of the following methods to integrate academic and vocational-technical education? (CHECK THE APPROPRIATE BOX FOR EACH METHOD)

	The extent to which programs used the following methods during the 1993-1994 academic year				
Methods	Very great extent	Great extent	Moderate extent	Some extent	Little or no extent
1. Academic skills were taught in required academic classes (n=385)	56%	22%	8%	4%	10%
2. Academic curricula formally incorporated occupational concepts (writing assignments focused on occupational topics, etc.) (n=384)	14%	20%	34%	25%	8%
3. Academic skills instruction was formally incorporated into vocational-technical class curricula (n=382)	16%	25%	30%	21%	8%
4. Special academic classes were designed specifically for vocational-technical programs (math for electronics students, etc.) (n=384)	14%	16%	25%	22%	23%
5. Academic and vocational-technical faculty taught in teams (n=382)	10%	6%	11%	18%	55%
6. Other methods of teaching academic skills to vocational-technical students (PLEASE SPECIFY) (n=57)	21%	10%	30%	18%	21%

33. Overall, is there more, about as much or less integration of academic curricula and instruction with vocational-technical education in the 1993-94 academic year, than there was in the 1990-1991 academic year? (CHECK ONE) (n=383)

18% Much more in 1993-94 than in 1990-91

52% Somewhat more in 1993-94 than in 1990-91

30% About as much in 1993-94 as in 1990-91

0% Somewhat less in 1993-94 than in 1990-91

0% Much less in 1993-94 than in 1990-91

0% N/A - institution didn't have vocational-technical programs in either year

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34. Does your institution have, or is it developing, any tech-prep programs? (CHECK ONE) (n=374)

85% Yes

15% No---> GO TO QUESTION 43

35. Listed below are various categories of tech-prep programs. Enter the number of each that your institution has, or is developing in the 1993-1994 academic year. (ENTER NUMBERS, IF NONE, ENTER "0")

		1993-1994 academic year (mean)
1.	Total number of tech-prep programs	5 (n=302)
2.	Total number of tech-prep programs that were being developed	4 (n=306)
3.	Number of tech-prep programs at least partially Perkins-funded	3 (n=295)
4.	Number of tech-prep programs at least partially Perkins-funded that were being developed	3 (n=289)

36. Do any of your tech-prep programs have a curriculum that is linked to high school in a formal 2 + 2 type arrangement? (CHECK ONE) (n=324)

79% Yes

21% No

37. Do any of your tech-prep programs have courses that are articulated so that postsecondary institution credit is given for certain courses that are completed in high school? (CHECK ONE) (n=326)

80% Yes

20% No

38. Do any of your tech-prep programs have a curriculum that includes applied academic courses? (CHECK ONE) (n=325)

79% Yes

21% No

39. Do any of your tech-prep programs have courses that integrate academic and vocational instruction? (CHECK ONE) (n=326)

79% Yes

21% No

40. Do any of your tech-prep programs involve high-tech courses? (CHECK ONE) (n=324)

74% Yes

26% No

41. Do any of your tech-prep programs have a work-based component, such as apprenticeships, co-ops, internships or other job experience? (CHECK ONE) (n=324)

60% Yes

40% No

42. Please indicate if your institution received a Perkins competitive grant for tech-prep programs for the 1993-1994 academic year, and if so, enter the amount of the grant. (CHECK ONE; IF "YES" ENTER AMOUNT) (n=316)

	NO	YES	
1993-1994 academic year	46%	54%	-----> enter amount $ 117,545 (mean)

43. During the 1993-1994 academic year, did your institution participate in a tech-prep effort with another entity that received a Perkins competitive grant for that year? (CHECK ONE) (n=381)

56% Yes

44% No

44. How many apprenticeship positions were filled by vocational technical students in your institution in the 1993-1994 academic year? (ENTER NUMBER OF STUDENTS; IF NONE, ENTER 0) (n=362)

26 (mean) apprenticeship positions

45. How many cooperative education or intern positions were filled by vocational technical students in your institution in the 1993-1994 academic year? (ENTER NUMBER OF STUDENTS; IF NONE, ENTER 0) (n=359)

57 (mean) cooperative or intern positions

46. How many other work based learning program positions that involve employers teaching students in the workplace (other than apprenticeships, and co-ops) were filled by vocational technical students in the 1993-1994 academic year? (ENTER NUMBER OF STUDENTS; IF NONE, ENTER 0) (n=358)

37 (mean) students

47. Listed below are credentials or qualifications that vocational-technical faculty might have. For the 1993-1994 academic year, please **estimate** the number of vocational-technical faculty in your institution with each credential/qualification. (ENTER THE NUMBER OF FACULTY FOR EACH)

	Types of credential/qualifications	Number of vocational-technical faculty with each in 1993-1994 (mean)
1.	Vocational-technical teaching certificate for specific field (n=301)	27
2.	Professional license or certification (n=342)	18
3.	Continuing education credits for vocational-technical faculty in any education area (n=267)	23
4.	Continuing education credits for vocational-technical faculty in their technical field (n=272)	20
5.	Continuing exposure to related industry or field of expertise (n=322)	34

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48. Listed below are degrees that vocational-technical faculty might have. For the 1993-1994 academic year, please **estimate** the number of vocational-technical faculty in your institution with each as their highest level of education. (ENTER NUMBER OF FACULTY FOR EACH; IF NONE, ENTER "0") (n=382)

	Highest level of education	Number of vocational-technical faculty with each in this institution in 1993-1994 (mean)
1.	High school diploma/GED certificate	3
2.	AA/AS degree	5
3.	BA/BS degree	14
4.	MA/MS degree	30
5.	PhD or EdD degree	4
6.	Other (PLEASE SPECIFY)	2
7.	TOTAL NUMBER OF VOCATIONAL-TECHNICAL FACULTY ----->	53

STUDENTS IN THIS INSTITUTION

49. Consider the students in your institution who were taking courses for credit during the fall semester of the 1992-1993 and 1993-1994 academic years. Please enter the total number of full time and part time students and, of these, the number in vocational-technical programs during each fall semester. (ENTER NUMBER IN EACH CATEGORY; IF NONE, ENTER "0")

	Fall 1992 enrollment (mean)		Fall 1993 enrollment (mean)	
	Total	Vocational-technical	Total	Vocational-technical
All students	4,924 (n=366)	2,159 (n=366)	4,838 (n=370)	2,100 (n=370)

50. Consider the special population students--that is, students with disabilities, Pell grant recipients, and students with limited English proficiency (LEP)--in your institution who were taking courses for credit during the fall semester of the 1992-1993 and 1993-1994 academic years. Please enter the total number of full time and part time students in each special population listed below and, of these, the number in vocational-technical programs during each fall semester. Double count where appropriate. (ENTER NUMBER IN EACH CATEGORY; IF NONE, ENTER "0")

	Fall 1992 enrollment (mean)		Fall 1993 Enrollment (mean)	
	Total	Vocational-technical	Total	Vocational-technical
1. Students with disabilities	261 (n=324)	132 (n=322)	271 (n=329)	130 (n=323)
2. Students who receive a Pell grant	934 (n=337)	493 (n=314)	925 (n=340)	485 (n=320)

3. LEP students	250 (n=294)	117 (n=295)	265 (n=300)	111 (n=297)

51. Consider the full time and part time students in your institution during the fall semester of the 1992-1993 and 1993-1994 academic years who were not members of any of the special populations listed above. Please enter the total number of these students (both full time and part time), and the number who were in vocational-technical programs during each fall semester. (ENTER NUMBER IN EACH CATEGORY; IF NONE, ENTER "0")

	Fall 1992 enrollment (mean)		Fall 1993 enrollment (mean)	
	Total	Vocational-technical	Total	Vocational-technical
Students who were not members of any special population	3,728 (n=312)	1,528 (n=311)	3,621 (n=312)	1,431 (n=312)

52. We would like to know how you learned about students who belong to special populations during the 1993-1994 academic year. Please estimate the percentage of (A) students with disabilities and (B) limited English proficient (LEP) students who were identified in each of the following ways. (ENTER PERCENTAGE ESTIMATES FOR EACH SPECIAL POPULATION; COLUMNS SHOULD ADD TO 100%)

		Students with disabilities (A) (mean)	LEP students (B) (mean)
1.	They volunteered this information on the application form	31 % (n=348)	30 % (n=239)
2.	They were identified through requests for services	31 % (n=305)	23 % (n=239)
3.	They were identified by faculty	7 % (n=305)	7 % (n=239)
4.	They were identified from high school records	4 % (n=305)	2 % (n=239)
5.	They were identified through assessment, evaluation, or testing of students	17 % (n=305)	31 % (n=239)
6.	Other (PLEASE SPECIFY)	8 % (n=305)	7 % (n=245)
7.	TOTAL ---------->	100%	100%

53. Did the Perkins Act amendments of 1990 result in an increase, decrease, or neither an increase nor decrease of each of the following? (CHECK ONE BOX FOR EACH ITEM)

		Greatly increased	Increased	Neither increased nor decreased	Decreased	Greatly decreased	Don't know
1.	Your institution's ability to purchase state of the art equipment (n=375)	16%	30%	27%	11%	12%	4%
2.	Your institution's ability to spend Perkins funds where needed most (n=374)	12%	30%	25%	18%	10%	4%
3.	Your institution's ability to plan vocational programs and use Perkins funds (n=374)	11%	28%	35%	13%	9%	4%
4.	The equity with which Perkins funding is allocated among institutions (n=372)	6%	23%	34%	14%	11%	12%
5.	The amount of record keeping required by state to meet Perkins requirements (n=374)	32%	34%	15%	5%	4%	10%
6.	The extent of services your institution offers vocational-technical students in special populations (n=375)	12%	48%	24%	5%	7%	4%
7.	The extent of services your institution offers vocational-technical students in general (n=373)	5%	39%	36%	12%	6%	3%
8.	The access special population students have to vocational-technical programs (n=373)	4%	45%	36%	5%	7%	4%
9.	Tutoring and remediation for vocational-technical students in general (n=374)	10%	38%	36%	6%	6%	4%
10.	Quality of vocational-technical programs (n=373)	5%	45%	34%	5%	8%	3%
11.	Your institution's program improvement efforts (n=375)	8%	47%	28%	6%	8%	4%
12.	Technical education standards that students must achieve (n=371)	2%	30%	53%	8%	4%	4%
13.	Academic education standards that students must achieve (n=373)	1%	26%	59%	9%	3%	3%
14.	Use of applied curricula in vocational-technical courses (n=371)	2%	33%	50%	5%	6%	4%
15.	Use of integration of academic and vocational-technical courses (n=371)	3%	38%	46%	6%	5%	3%
16.	Application of measures and standards to evaluate the effectiveness of programs (n=372)	8%	41%	37%	4%	6%	4%
17.	Development of tech-prep (2+2) programs (n=372)	23%	37%	26%	2%	6%	6%
18.	Professional development opportunities for instructors and administrators (n=375)	7%	37%	40%	6%	6%	3%
19	Other (PLEASE SPECIFY) (n=9)	22%	11%	22%	0%	11%	33%

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54. In your opinion, what specific provisions of the Perkins Act, if any, should be modified? (WRITE IN BELOW)

155 responses received

55. Thank you for taking part in this survey. If you wish to add any comments about this questionnaire or about vocational-technical education, please write them below.

92 responses received

HEHS/JGS/1/11/94

GLOSSARY

Disadvantaged: Individuals (other than individuals with disabilities) who have economic or academic disadvantages and who require special services and assistance to succeed in vocational-technical education programs.

Disabled: Individuals who are mentally retarded, hard of hearing, deaf, speech impaired, visually impaired, seriously disturbed, orthopedically impaired, other health impaired, deaf-blind, or have multiple disabilities, or specific learning disabilities, who because of these impairments, need special education and related services and cannot succeed in the regular vocational-technical program without special education assistance.

Limited English proficient: Individuals who were not born in the United States or whose native language is other than English; who come from environments where a language other than English is dominant or had a significant impact on their level of English language proficiency; and as a result, have sufficient difficulty speaking, reading, writing, or understanding the English language to deny the opportunity to learn successfully in classrooms where English is the language used for instruction.

Special populations: Includes individuals with disabilities, disadvantaged individuals, and individuals of limited English proficiency.

Vocational-technical education: Organized educational programs offering a sequence of courses that are directly related to the preparation of individuals in paid or unpaid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree. For example, a program in technical drafting might consist of a sequence of courses, such as fundamentals of drafting and design, technical illustration/rendering, electrical-electronic drafting, technical drafting I and II, hydraulics and pneumatics, and machine shop practices I and II.

Comments From the Department of Education

UNITED STATES DEPARTMENT OF EDUCATION

OFFICE OF VOCATIONAL AND ADULT EDUCATION

THE ASSISTANT SECRETARY

JUN 23 1995

Ms. Linda G. Morra
Director, Education and Employment Issues
Health, Education, and
Human Services Division
United States General Accounting Office
Washington, DC 20548

Dear Ms. Morra:

This is in response to your June 8, 1995, letter to Secretary Riley, requesting comments on the General Accounting Office (GAO) draft report entitled, "VOCATIONAL EDUCATION: 2-Year Colleges Improve Programs, Maintain Access for Special Populations" (GAO/HEHS-95-163). The Secretary has asked me to respond to your request since the report addresses implementation of the Carl D. Perkins Vocational and Applied Technology Education Act.

We believe this is a very good report. In reviewing the report, we were pleased to learn that, according to GAO's survey, 2-year colleges have aggressively implemented such important reforms as using performance measures and establishing tech-prep education programs. It was also gratifying to learn that removal of the set-aside requirements from the Perkins Act had no adverse impact on special populations, that enrollment of those students has increased, and that colleges have maintained (and in some areas even increased) their provision of support services for students who need them.

The report also indicates that 2-year colleges have been less active in integrating academic and vocational instruction. This is an area that the Department will want to concentrate on, through our technical assistance efforts and through our grant to the National Center for Research in Vocational Education, in the coming years. Strengthening the link between academic and vocational education is also a key element of the Administration's proposal for reauthorization of the Perkins Act.

Thank you for the opportunity to comment on this report. If you have any questions, please contact Dr. Winifred I. Warnat, Director, Division of Vocational-Technical Education, at 205-9441.

Sincerely,

Augusta Kappner

Augusta Souza Kappner

600 INDEPENDENCE AVE., S.W. WASHINGTON, D.C. 20202-7100

Our mission is to ensure equal access to education and to promote educational excellence throughout the Nation

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Staff Acknowledgments

Sarah Glavin, Senior Economist, commented on earlier drafts and assisted with data analysis. Joan K. Vogel, Social Science Analyst, and Leonard J. Hamilton, Social Science Analyst, were responsible for computer programming and data analysis. Richard A. McGeary, Senior Evaluator, provided direction to the project at its earlier stages.

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